IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Attorney Docket No. 15258US02

In the Application of:

Ahmadreza Rofougaran et al.

U.S. Serial No.: 09/634,552

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For: ADAPTIVE RADIO TRANSCEIVER

Examiner: Nghi H. Ly

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Michael T. Cruz
Reg. No. 44,636

REVISED APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is a Revised Appeal Brief in response to the Notification of Non-Compliant Appeal Brief ("the Notification") mailed January 5, 2007. A Petition for a One-Month Extension is enclosed, thereby extending the deadline for filing a Revised Appeal Brief in response to the Notification to March 5, 2007.

REAL PARTY IN INTEREST

Broadcom Corporation, a corporation organized under the laws of the state of California and having a place of business at 16215 Alton Parkway, Irvine, California 92618, has acquired the entire right, title and interest in and to the invention, the application, and any and all patents to be obtained therefor.

RELATED APPEALS AND INTERFERENCES

There are currently no appeals or interferences pending regarding related applications.

STATUS OF THE CLAIMS

Claims 1-24, 32-43, 51-77, 85-90, 92-105, 112-123 and 164 are pending in the present application. Claims 1-24, 32-43, 51-77, 85-90, 92-105, 112-123 and 164 are rejected. The rejection of claims 1-24, 32-43, 51-77, 85-90, 92-105, 112-123 and 164 is being appealed.

STATUS OF AMENDMENTS

No amendments are pending in the present application. A response to provoke an advisory action was filed on March 31, 2006 in response to the Office Action Made Final of January 31, 2006. An Advisory Action was mailed on June 2, 2006.

SUMMARY OF CLAIMED SUBJECT MATTER

Some embodiments according to some aspects of the present invention may provide, for example, a method (see, e.g., FIGS. 1 and 2) of wireless communications using a transceiver having a receiver (e.g., receiver 10) and transmitter (e.g., transmitter 12) as set forth in claim 1. The method (see, e.g., FIGS. 1 and 2) may include, for example, one or more of the following: programming one of the receiver (e.g., receiver 10) and the transmitter (e.g., transmitter 12) to process communication protocol for a

local area network or a personal area network (see, e.g., specification at page 11, lines 5-10); receiving a first signal at the receiver (e.g., receiver 10) from a wireless source (see, e.g., specification at page 10, lines 14-15); and transmitting a second signal from the transmitter (e.g., transmitter 12) into space (see, e.g., specification at page 10, lines 32-34). The programming may include, for example, programming a demodulator (e.g., demodulator 36) with a demodulation. See, e.g., specification at page 11, lines 5-22; and page 68, lines 4-6.

Some embodiments according to some aspects of the present invention may provide, for example, a method (see, e.g., FIGS. 1 and 2) of wireless communications using a transceiver having a receiver (e.g., receiver 10), transmitter (e.g., transmitter 12) and local oscillator (e.g., local oscillator generator 14) as set forth in claim 32. The method (see, e.g., FIGS. 1 and 2) may include, for example, one or more of the following: programming one of the receiver (e.g., receiver 10) and the transmitter (e.g., transmitter 12) to process communication protocol for a local area network or a personal area network (see, e.g., specification at page 11, lines 5-10); programming a frequency of a clock in the local oscillator (see, e.g., specification at page 14, line 15 to page 15, line 5); receiving a first signal at the receiver (e.g., receiver 10) from a wireless source (see, e.g., specification at page 10, lines 14-15); downconverting the received first signal with the clock (see, e.g., specification at page 10, lines 22-23; and page 14, lines 19-21); upconverting a second signal with the clock (see, e.g., specification at page 10, lines 32-34); and transmitting the upconverted second signal from the transmitter into space (see, e.g., specification at page 10, lines 32-34; and page 16. lines 33-35). The programming of one of the receiver (e.g., receiver 10) and the transmitter (e.g., transmitter 12) may include, for example, programming a demodulator with a demodulation. See, e.g., specification at page 11, lines 5-22; page 68, lines 4-6; and FIGS. 1 and 2.

Some embodiments according to some aspects of the present invention may provide, for example, an adaptive transceiver (see, e.g., FIGS. 1 and 2) as set forth in claim 51. The adaptive transceiver (see, e.g., specification at page 9, line 28 to page 10, line 16) may include, for example, a receiver (e.g., receiver 10) having programmable component (see, e.g., receiver 10 in FIG. 2), a transmitter (e.g., transmitter 12) coupled to

the receiver (e.g., receiver 10) and having a programmable component (see, e.g., transmitter 12 in FIG. 2), and a controller (e.g., controller 16) to program one of the receiver and transmitter components to process communication protocol for a local area network or a personal area network (see, e.g., specification at page 11, lines 5-9). The controller (e.g., controller 16) may program a demodulator with a demodulation. See, e.g., specification at page 5, lines 5-22; page 68, lines 4-6; FIGS. 1 and 2.

Some embodiments according to some aspects of the present invention may provide, for example, an adaptive transceiver (see, e.g., FIGS. 1 and 2) as set forth in claim 85. The adaptive transceiver (see, e.g., FIGS. 1 and 2) may include, for example, means for receiving a first signal from an external wireless source (see, e.g., receiver 10; and specification at page 10, lines 14-15), means for transmitting a second signal into space (see, e.g., transmitter 12; and specification at page 10, lines 32-34), and means for programming one of the receiving means and transmitting means to process communication protocol for a local area network or a personal area network (see, e.g., controller 16; and specification at page 11, lines 5-10). The receiving means may include, for example, means for demodulating the received first signal (see, e.g., demodulator 36). The programming means may include, for example, means for programming the demodulating means with a demodulation. See, e.g., demodulation register 903; specification at page 11, lines 5-22; page 68, lines 4-6; and FIGS. 1 and 2.

Some embodiments according to some aspects of the present invention may provide, for example, an adaptive transceiver (see, e.g., FIGS. 1 and 2) as set forth in claim 112. The adaptive transceiver (see, e.g., FIGS. 1 and 2) may include, for example, means for programming the transceiver to process communication protocol for a local area network or a personal area network (see, e.g., controller 116; specification at page 11, lines 5-10), means for receiving a first signal from a wireless source (see, e.g., receiver 10; and specification at page 10, lines 14-15), means for downconverting the received first signal with a clock (see, e.g., mixers 24 or 30; specification at page 10, lines 22-23), means for upconverting a second signal with the clock (see, e.g., miser 58; specification at page 10, lines 32-34), means for transmitting the upconverted second signal into space (see, e.g., transmitter 12; specification at page 10, lines 32-34; and page

16. lines 33-35), means for programming a frequency of the clock (see, e.g., controller 16; specification at page 10, lines 32-34), and means for programming a demodulator with a demodulation. See, e.g., controller 16; specification at page 11, lines 5-22; page 68, lines 4-6; and FIGS. 1 and 2.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-16, 19-22, 32-43, 51-77, 85-90, 92-97, 100-103, 112-119, 122, 123 and 164 are unpatentable under 35 U.S.C. § 103(a) as being obvious over United States Patent No. 5,953,640 ("Meador") in view of United States Patent No. 6,526,034 ("Gorsuch") and further in view of United States Patent No. 4,893,316 ("Janc").

Whether claims 17, 18, 23, 24, 98, 99, 104, 105, 120 and 121 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Meador in view of Gorsuch and further in view of Janc and yet further in view of United States Patent No. 5,940,456 ("Chen").

ARGUMENT

I. CLAIMS 1, 6-10, 13, 14, 19, 20, 33-37, 51-55, 59-62 66-70, 72-77, 85, 89-92, 94, 95, 100, 101, 112, 114-117 AND 164

Claim 1 recites, in part, "programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network".

The Examiner admits that Meador does not teach at least these elements as set forth in claim 1. The Examiner does not allege that Janc teaches at least these elements as set forth in claim 1. However, the Examiner alleges that Gorsuch at FIG. 6 and col. 10, lines 50-59 teaches at least these elements.

Appellants respectfully draw the attention of the Board to Gorsuch at FIG. 6. The W-LAN detection circuit 201 controls switches 211a, 211b so that either the CDMA branch 130, 140 or the 802.11 branch 230, 240 is connected to the interface 120 and the antenna 150.

Appellants respectfully submit that Gorsuch at FIG. 6 demonstrates that there is no "programming one of the receiver and the transmitter to process communication protocol for a local area network".

Note that the CDMA transceiver 140 is a CDMA transceiver 140 independent of the switching choices presented by the switches 211a, 211b.

Note that the 802.11 transceiver 240 is an 802.11 transceiver 240 independent of the switching choices presented by the switches 211a, 211b.

Neither the CDMA transceiver 140 nor the 802.11 transceiver 240 is being programmed "to process communication protocol for a local area network".

Gorsuch at col. 10, lines 50-59 is reproduced below:

> If, on the other hand, a W-LAN is detected, switches 211A and 211B are switched to the position shown to utilize the W-LAN protocol converter 230 and transceiver 240, which are preferably IEEE 802.11-compliant. Note that the path switches 211A, 211B may be implemented in software or hardware, or a combination of hardware and software. Other functions may also be implemented in hardware and/or software which may further be shared by the W-LAN and CDMA sections where appropriate.

Gorsuch at col. 10, lines 50-59.

Appellants respectfully submit that, just because path switches 211A, 211B may be implemented in software or hardware, or a combination of hardware and software, it does not necessarily follow that Gorsuch teaches programming one of the receiver and the transmitter to process communication protocol for a local area network. Hardware or software switching between CDMA transceiver 140 and 802.11 transceiver 240 is not the same as "programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network".

Appellants respectfully submit that, just because Gorsuch states in boilerplate that "[o]ther functions may also be implemented in hardware and/or software", it does not necessarily follow that Gorsuch teaches "programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network". It is a stretch in logic and the meaning of that boilerplate to presume that such a naked statement in view of Gorsuch would enable one of ordinary skill in the art to

program one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network. For example, Gorsuch offers no clues as to how one might, for example, program one of a receiver and a transmitter of the CDMA transceiver 140 or the 802.11 transceiver 240 to process communication protocol for a local area network or a personal area network.

In fact, no such details of programming one of a receiver and a transmitter are even given by Gorsuch. In addition, there is no teaching of "programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network". It is respectfully submitted that the cited naked boilerplate is not an enabling disclosure with respect to programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network as set forth in claim 1.

Neither Meador nor Janc, individually or combined, make up for the teaching deficiencies of Gorsuch.

For at least the above reasons, it is respectfully requested that the rejection with respect to claims 1, 6-10, 13, 14, 19 and 20 be reversed by the Board.

Independent claim 32 recites "programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network".

Independent claim 51 recites "a controller to program one of the receiver and transmitter components to process communication protocol for a local area network or a personal area network".

Independent claim 85 recites "means for programming one of the receiving means and transmitting means to process communication protocol for a local are network or a personal area network".

Independent claim 112 recites "means for programming the transceiver to process communication protocol for a local area network or a personal area network".

At least the same or similar arguments made with respect to claim 1 are made with respect to claims 32, 51, 85 and 112.

For at least the above reasons, it is respectfully requested that the rejection with respect to claims 33-37, 51-55, 59-62, 66-70, 72-77, 85, 89-92, 94, 95, 100, 101, 112, 114-117 and 164 be reversed by the Board.

II. CLAIMS 2, 43, 56, 64, 86 AND 123

Claim 2 depends from claim 1. Accordingly, the arguments made with respect to the independent claim (i.e., claim 1) are made herein with respect to claim 2.

Claim 2 recites "wherein the transmission of the second signal comprises filtering the second signal with a filter, and the programming comprises programming a frequency band of the filter".

Thus, the filter filters the second signal and the filter has a frequency band that is programmed.

In presenting an allegedly *prima facie* case of obviousness, the Examiner alleges that Meador at col. 3, line 1 to col. 4, lines 22 and col. 6, lines 30-43 teaches at least these elements as set forth in claim 2. However, Appellants note that there is no mention of programming a frequency band of the filter that filters the second signal as set forth in claim 2.

Thus, it is respectfully submitted that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 2.

The same or similar arguments can be made with respect to claims 43, 56, 64, 86 and 123.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 43, 56, 64, 86 and 123.

III. CLAIMS 3, 42, 57, 63, 71, 87, 113 AND 122

Claim 3 depends from claim 1. Accordingly, the arguments made with respect to the independent claim (i.e., claim 1) are made herein with respect to claim 3.

Claim 3 recites "wherein the transmission of the second signal comprises amplifying the second signal with an amplifier, and the programming comprises programming gain of the amplifier".

Thus, the amplifier that amplifies the second signal and the amplifier has a gain that is programmed.

In presenting an allegedly *prima facie* case of obviousness, the Examiner alleges that Meador at col. 3, line 1 to col. 4, lines 22 and col. 6, lines 30-43 teaches at least these elements as set forth in claim 2. However, Appellants note that there is no mention of programming a gain of an amplifier that amplifies the second signal as set forth in claim 3.

Thus, it is respectfully submitted that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 3.

The same or similar arguments can be made with respect to claims 42, 57, 63, 71, 87, 113 and 122.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claims 42, 57, 63, 71, 87, 113 and 122.

IV. CLAIMS 4, 58, 65, 88 AND 93

Claim 4 depends from claim 1. Accordingly, the arguments made with respect to the independent claim (i.e., claim 1) are made herein with respect to claim 4.

Claim 4 recites "wherein the transmission of the second signal comprises filtering the second signal with a filter and amplifying the filtered second signal with an amplifier, and wherein the programming comprises programming a frequency band of the filter and programming gain of the amplifier".

For reasons set forth with respect to claims 2 and 3, it is believed that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 4.

The same or similar arguments can be made with respect to claims 58, 65, 88 and 93.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claims 58, 65, 88 and 93.

V. CLAIM 5

Claim 5 depends from claim 4. Accordingly, the arguments made with respect to claims 4 and 1 are made herein with respect to claim 5.

Claim 5 recites "reprogramming at least one of the frequency band of the filter and the gain of the amplifier after amplifying the filtered second signal" (emphasis added).

In presenting an allegedly *prima facie* case of obviousness, the Examiner alleges that Meador at col. 3, line 1 to col. 4, lines 22 and col. 6, lines 30-43 teaches at least these elements as set forth in claim 5. However, Appellants note that there is no mention of reprogramming a frequency band of the filter or reprogramming a gain of the amplifier forth in claims 4 and 5.

Thus, it is respectfully submitted that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 5.

VI. CLAIM 11

Claim 11 depends indirectly from claim 1. Accordingly, the arguments made with respect to the independent claim (i.e., claim 1) are made herein with respect to claim 11.

Claim 11 recites "wherein the transmission of the second signal comprises filtering the second signal with a second filter and amplifying the filtered second signal with a second amplifier, and wherein the programming further comprises programming a frequency band of the second filter and programming gain of the second amplifier".

With regard to claim 11, in presenting an allegedly *prima facie* case of obviousness, the Examiner inexplicably discusses receiver components. However, claim

11 relates to the transmission of the second signal. For these reasons alone, the Examiner has failed to present a *prima facie* case of obviousness.

In addition, the same or similar arguments made with respect to claims 2 and 3 are also made with respect to claim 11.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 11.

VII. CLAIM 12

Claim 12 depends from claim 11 and depends indirectly from claim 1. Accordingly, the arguments made with respect to claims 11 and 1 are made herein with respect to claim 12.

Claim 12 recites "reprogramming at least one of the gain of the amplifier, the frequency band of the filter, and the demodulation for the demodulator after the demodulating the filtered first signal, and reprogramming at least one of the frequency band of the second filter, and the gain of the second amplifier after amplifying the filtered second signal".

With regard to claim 12, in presenting an allegedly *prima facie* case of obviousness, the Examiner inexplicably discusses receiver components. However, claim 12 also relates to the transmission of the second signal. For these reasons alone, the Examiner has failed to present a *prima facie* case of obviousness.

In addition, with regard to the transmission of the second signal, Meador is silent with respect to the reprogramming at least one of the frequency band of the second filter, and the gain of the second amplifier after amplifying the second signal as set forth in claim 12 which depends from claim 11 and indirectly from claim 1.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 12.

VIII. CLAIMS 15, 38 AND 96

Claim 15 depends from claim 14 and indirectly depends from claim 1. Accordingly, the arguments made with respect to the independent claim (i.e., claim 1) are made herein with respect to claim 15.

Claim 14 recites "wherein the downconversion comprises mixing the received first signal with a clock".

Claim 15 recites "generating the clock by mixing a second clock with a third clock".

In presenting an allegedly *prima facie* case of obviousness, the Examiner alleges that the elements as set forth in claim 15 are taught by Meador at col. 4, lines 38-50.

Meador at FIG. 1A illustrates that downconversion occurs at mixers 130, 131 via an I/Q signal generated by the I/Q generator 183.

The salient issue is then whether the I/Q signal generated by the I/Q generator 183 is generated "by mixing a second clock with a third clock". Meador does not teach this. Instead, an off-chip VCO signal is buffered at buffer 181 and its frequency is divided by 2 in divider 182 before creating the I/Q signal with an I component and a Q component at the same frequency as the output of the divider 182. So, the I/Q signal generated by the I/Q generator 183 and received by mixers 130, 131 in Meador is not generated by mixing a second clock with a third clock.

Thus, it is respectfully submitted that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 15.

The same or similar arguments can be made with respect to claims 38 and 96.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claims 38 and 96.

IX. CLAIMS 16, 39 AND 97

Claim 16 depends from claim 15 and indirectly from claim 1. Accordingly, the arguments made with respect to claims 15 and 1 are made herein with respect to claim 16.

Claim 16 recites "generating the third clock by dividing the second clock by an integer N".

Because of the dependence from claims 14 and 15, downconversion includes mixing the received first signal with a clock that has been generated by mixing a second clock with a clock that was generated by dividing the second clock by an integer N.

In view of the downconversion discussions with respect to claim 15, Meador does not teach, for example, a clock used in downconversion that was generated by mixing a second clock with a clock that was generated by dividing the second clock by an integer N.

Thus, it is respectfully submitted that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 16.

The same or similar argument can be made with respect to claims 39 and 97.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claims 39 and 97.

X. CLAIMS 21, 102 AND 118

Claim 21 depends indirectly from claim 1. Accordingly, the arguments made with respect to the independent claim (i.e., claim 1) are made herein with respect to claim 21.

Claim 21 depends from claim 20.

Claim 20 recites "wherein the upconversion comprises mixing the second signal with a clock".

Claim 21 recites "generating the clock by mixing a second clock with a third clock".

In other words, upconversion includes mixing the second signal (which is to be transmitted according to claim 1) with a clock that is itself generated by mixing a second clock with a third clock.

In presenting an allegedly *prima facie* case of obviousness with respect to the elements recited in claim 21, the Examiner relies on Meador. However, Meador does not really discuss upconversion before transmission in detail anywhere. So it is puzzling that the Examiner cites Meador at col. 4, lines 38-50. Col. 4, lines 38-43 discuss an off chip VCO signal that is buffered in buffer 181 before being input into a DIV 2 component 165 and a TX AMP 122 as set forth in FIG. 1A. However, upconversion is not discussed here. Col. 4, lines 44-50 discuss the reference oscillator and temperature compensation stage 103, but does not discuss upconversion or mixing.

Appellants respectfully submit that the citations to Meador provided by the Examiner in support of the obviousness rejection does not teach the elements as set forth in claim 21 as alleged.

Thus, it is respectfully submitted that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 21.

The same or similar arguments can be made with respect to claims 102 and 118.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claims 102 and 118.

XI. CLAIMS 22, 103 AND 119

Claim 22 depends from claim 21 and indirectly from claim 1. Accordingly, the arguments made with respect to claims 21 and 1 are also made herein with respect to claim 22.

Claim 22 recites "generating the third clock by dividing the second clock by an integer N".

Since claim 22 depends from claim 21 which depends from claim 20, the following is recited: upconversion comprises missing the second signal (which is to be

transmitted according to claim 1) and a clock that is generated by mixing a second clock with a clock that is generated by dividing the second clock by an integer N.

In presenting an allegedly *prima facie* case of obviousness, the Examiner alleges that Meador at col. 3, line 34 to col. 4, line 22 teaches at least these elements.

In fact, the Examiner has taken the elements as set forth in claim 22 in a vacuum and ignored the dependence of claim 22 from claim 21 which, in turn, depends from claim 20, which, in turn, depends from claim 19 which, in turn, depends from claim 1.

In fact, the cited text of Meador does not teach at least these elements in the context of the recited elements of the claims from which claim 22 depends.

Thus, it is respectfully submitted that a *prima facie* case of obviousness has not been presented.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claim 22.

The same or similar arguments can be made with respect to claims 103 and 119.

For at least the above reasons, it is respectfully requested that the Board reverse the rejection with respect to claims 103 and 119.

XII. CLAIMS 17, 18, 23, 24, 98, 99, 104, 105, 120 and 121

A. Improper Combination of Cited Documents

The Office Action Made Final at pages 6 and 7 states that Chen makes up for the teaching deficiencies of Meador in view of Gorsuch and further in view of Janc. However, Appellants respectfully submit that one of ordinary skill in the art as pertains to Meador, Gorsuch and Janc would not have looked to Chen to make up for teaching deficiencies.

Appellants respectfully submit that, while Meador, Gorsuch and Janc relate to communications using an antenna, Chen relates to "systems that allow multiple plesiochronous digital hierarchy payload data streams to be synchronously communicated using *fiber optical* transceivers". Chen at col. 1, lines 7-10 (italics added).

Appellants respectfully submit that one of ordinary skill in the wireless communication arts of Meador, Gorsuch and Janc would not look to an invention relating to multiple plesiochronous digital hierarchy payload data streams of fiber optic systems.

Appellants respectfully submit that one of ordinary skill in the wireless communication arts of Meador, Gorsuch and Janc looking to modify, for example, a clock frequency used in, for example, downconversion and/or upconversion would not look to a wireline invention that removed "the need to perform stuffing and de-stuffing of the data streams" in a fiber optics system. See, e.g., Chen at Abstract.

Appellants respectfully submit that Chen was improperly combined with Meador, Gorsuch and Janc.

For at least the above reasons, it is respectfully submitted that the obviousness rejection cannot be maintained.

B. Dependent Claims Depend From Independent Claims

Appellants respectfully submit that the Examiner failed to heed the fact that these claims depend from other claims. This affects the interrelationship of the components beyond merely the elements recited in claims 17, 18, 23, 24, 98, 99, 104, 105, 120 and 121.

Claims 17, 18, 98, 99, 120 and 121 may relate, for example, to a clock having a clock frequency equal to $f_{VCO}(N+1)/N$ that is used, for example, for downconversion. Although FIG. 5 of Chen relates to TAXI transmitter 314, FIG. 6 relates to TAXI receiver 406. Appellants respectfully submit that FIG. 6 does not illustrate downconversion using a clock with a frequency equal to $f_{VCO}(N+1)/N$. For at least the above reasons, the cited documents including Chen does not present a *prima facie* case of obviousness with respect to claims 17, 18, 98, 99, 120 and 121.

Claim 23, 24, 104 and 105 may relate, for example, to a clock having a clock frequency equal to $f_{VCO}(N+1)/N$ that is used, for example, for upconversion. Since FIG. 5 illustrates variables K and N, Appellants note that the Examiner could not be sure that values chosen for K and N would make an upconversion. Furthermore, according to FIG. 5, if the "Clock" input to the TAXI Transmitter 314 allegedly has a frequency of $f_{VCO}(N+1)/N$, that implies that the "Divide By N" 328 is the VCO for the transceiver.

Appellants respectfully submit that the Chen transceiver does not support such an interpretation. Appellants respectfully submit that the output of the "Divide By N" 328 is not used throughout any alleged Chen transceiver as a VCO. Appellants respectfully note that Chen does not even mention a VCO. For at least the above reasons, the cited documents modified by Chen does not present a *prima facie* case of obviousness with respect to claims 23, 24, 104 and 105.

C. Prohibition Against Changing Principle of Operation

Since it appears that the alleged clock in Chen having a frequency equal to $f_{VCO}(N+1)/N$ is not used by both the TAXI transmitter 314 (FIG. 5) and the TAXI receiver 406 (FIG. 6), then the teachings of Chen would fundamentally change the operation of the Meador chip architecture. M.P.E.P. § 2143.01(VI)("[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious").

In view of M.P.E.P. § 2143.01(VI), it is respectfully requested that the obviousness rejection be withdrawn.

D. Improper Combination of Cited Documents

Finally, as stated above, Chen does not even mention a VCO. Accordingly, Appellants respectfully submit that one of ordinary skill in the art would not look to Chen for teachings of modifying the frequency of a VCO (f_{VCO}) into, for example, (N+1)/N times the frequency of the VCO (f_{VCO}). For at least this reason, Appellants respectfully submit that impermissible hindsight solely in view of the recited claims was used in maintaining this rejection.

For at least the above reasons, the rejection should be withdrawn with respect to claims 17, 18, 23, 24, 98, 99, 104, 105, 120 and 121.

E. VCO "can be anything"

In the Advisory Action, the Examiner makes the extraordinary statement that VCO as set forth in at least some of the claims "can be anything". The Examiner has clearly overstated his case.

The Examiner should have conceded that the scope of the recited elements are to be interpreted from the point of view of one of ordinary skill in the art. Appellants respectfully submit that one of ordinary skill in the art would not interpret "f_{LO}" or "f_{VCO}" as anything.

In fact, in the Examiner's Answer, Appellants looks forward to the Examiner defending the statement that one of ordinary skill in the art would not know what "f_{LO}" or "f_{VCO}" are.

Appellants respectfully submit that one of ordinary skill in the art would know what VCO meant. The Board need only look at the documents cited by the Examiner to confirm that one or ordinary skill in the art would appreciate what "VCO" meant. FIGS. 3 and 4 of Meador (cited by the Examiner) uses "VCO". Appellants doubt very much that one of ordinary skill in the art would look at FIGS. 3 and 4, component 340, "VCO" and be unable to understand the figure and the meaning of "VCO". Furthermore, Appellants respectfully submit that the Examiner would not look at FIGS. 3 and 4 of Meador and view "VCO" as meaning absolutely anything.

In fact, the Examiner, who presumably knows less than the theoretical person of ordinary skill in the art, knew what "VCO" meant and was able to apply substantive rejections over a multitude of office actions over a multitude of years, before, for the first time in the Advisory Action, being unable to comprehend what VCO meant. Appellants are at a loss as to the Examiner's sudden incomprehension.

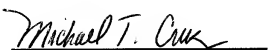
XIII. CONCLUSION

For the foregoing reasons, claims 11-24, 32-43, 51-77, 85-90, 92-105, 112-123 and 164 are patentable over the alleged prior art of record. Reversal of the Examiner's rejection of claims 1-24, 32-43, 51-77, 85-90, 92-105, 112-123 and 164 is therefore respectfully requested, thereby placing claims 1-24, 32-43, 51-77, 85-90, 92-105, 112-123 and 164 in condition for allowance. Accordingly, issuance of a patent on the application is therefore respectfully requested.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

Dated: March 5, 2007

Respectfully submitted,



Michael T. Cruz
Registration No. 44,636

McANDREWS, HELD & MALLOY, LTD.
500 West Madison Street, 34th Floor
Chicago, Illinois 60661
Telephone: (312) 775-8084
Facsimile: (312) 775-8100

CLAIMS APPENDIX

The following claims are involved in this appeal:

1. A method of wireless communications using a transceiver having a receiver and transmitter, comprising:

programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network;

receiving a first signal at the receiver from a wireless source; and

transmitting a second signal from the transmitter into space,

wherein the programming comprises programming a demodulator with a demodulation.

2. The method of claim 1 wherein the transmission of the second signal comprises filtering the second signal with a filter, and the programming comprises programming a frequency band of the filter.

3. The method of claim 1 wherein the transmission of the second signal comprises amplifying the second signal with an amplifier, and the programming comprises programming gain of the amplifier.

4. The method of claim 1 wherein the transmission of the second signal comprises filtering the second signal with a filter and amplifying the filtered second signal with an amplifier, and wherein the programming comprises programming a frequency band of the filter and programming gain of the amplifier.

5. The method of claim 4 further comprising reprogramming at least one of the frequency band of the filter and the gain of the amplifier after amplifying the filtered second signal.

6. The method of claim 1 wherein the reception of the first signal comprises filtering the received first signal with a filter, and the programming comprises programming a frequency band of the filter.

7. The method of claim 1 wherein the reception of the first signal comprises amplifying the received first signal with an amplifier, and the programming comprises programming gain of the amplifier.

8. The method of claim 1 wherein the reception of the first signal comprises demodulating the received first signal with a demodulator.

9. The method of claim 1 wherein the reception of the first signal comprises amplifying the received first signal with an amplifier, filtering the amplified first signal with a filter, and demodulating the filtered first signal with a demodulator, and wherein the programming comprises programming gain of the amplifier and a frequency band of the filter.

10. The method of claim 9 further comprising reprogramming at least one of the gain of the amplifier, the frequency band of the filter and the demodulation for the demodulator after the filtered first signal is demodulated.

11. The method of claim 9 wherein the transmission of the second signal comprises filtering the second signal with a second filter and amplifying the filtered second signal with a second amplifier, and wherein the programming further comprises programming a frequency band of the second filter and programming gain of the second amplifier.

12. The method of claim 11 further comprising reprogramming at least one of the gain of the amplifier, the frequency band of the filter, and the demodulation for the demodulator after the demodulating the filtered first signal, and reprogramming at least one of the frequency band of the second filter, and the gain of the second amplifier after amplifying the filtered second signal.

13. The method of claim 1 further comprising downconverting the received first signal.

14. The method of claim 13 wherein the downconversion comprises mixing the received first signal with a clock.

15. The method of claim 14 further comprising generating the clock by mixing a second clock with a third clock.

16. The method of claim 15 further comprising generating the third clock by dividing the second clock by an integer N.

17. The method of claim 16 wherein the clock comprises a frequency f_{LO} equal to f_{VCO} (N+1) / N, wherein f_{VCO} equals a frequency of the second clock.

18. The method of claim 17 wherein N = 2.

19. The method of claim 1 further comprising upconverting the second signal before transmission into space.

20. The method of claim 19 wherein the upconversion comprises mixing the second signal with a clock.

21. The method of claim 20 further comprising generating the clock by mixing a second clock with a third clock.

22. The method of claim 21 further comprising generating the third clock by dividing the second clock by an integer N.

23. The method of claim 22 wherein the clock comprises a frequency f_{LO} equal to f_{VCO} (N+1) / N, wherein f_{VCO}, equals a frequency of the second clock.

24. The method of claim 23 wherein N = 2.

32. A method of wireless communications using a transceiver having a receiver, transmitter and local oscillator, comprising:

programming one of the receiver and the transmitter to process communication protocol for a local area network or a personal area network;

programming a frequency of a clock in the local oscillator;

receiving a first signal at the receiver from a wireless source;

downconverting the received first signal with the clock;

upconverting a second signal with the clock; and

transmitting the upconverted second signal from the transmitter into space,

wherein the programming of one of the receiver and the transmitter comprises programming a demodulator with a demodulation.

33. The method of claim 32 further comprising amplifying the received first signal with an amplifier, and programming gain of the amplifier.

34. The method of claim 32 wherein the received first signal is downconverted to an intermediate frequency signal.

35. The method of claim 34 further comprising filtering the intermediate frequency signal with a filter, and programming a frequency band of the filter.

36. The method of claim 34 further comprising downconverting the intermediate frequency signal to a baseband signal.

37. The method of claim 36 further comprising demodulating the baseband signal with a demodulator.

38. The method of claim 32 wherein the programming of the clock frequency comprising mixing a second clock with a third clock.

39. The method of claim 38 further comprising generating the third clock by dividing the second clock by an integer N.

40. The method of claim 39 wherein the clock frequency f_{LO} is equal to f_{VCO} (N+1) / N, wherein f_{VCO} equals a frequency of the second clock.

41. The method of claim 40 wherein N = 2.

42. The method of claim 32 further comprising amplifying the upconverted first signal with an amplifier before transmitting the upconverted first signal into space, and programming gain of the amplifier.

43. The method of claim 32 further comprising filtering the first signal with a filter, and programming a frequency band of the filter.

51. An adaptive transceiver, comprising:

a receiver having programmable component;

a transmitter coupled to the receiver and having a programmable component; and

a controller to program one of the receiver and transmitter components to process communication protocol for a local area network or a personal area network,

wherein the controller programs a demodulator with a demodulation.

52. The adaptive transceiver of claim 51 wherein the receiver component comprises a filter having a programmable frequency band.

53. The adaptive transceiver of claim 51 wherein the receiver component comprises an amplifier having a programmable gain.

54. The adaptive transceiver of claim 51 wherein the receiver component comprises the demodulator with programmable demodulation.

55. The adaptive transceiver of claim 51 wherein the receiver component comprises an amplifier having a programmable gain, and the receiver further comprises a filter coupled to the amplifier and having a programmable frequency band, and the demodulator coupled to the filter and having programmable demodulation.

56. The adaptive transceiver of claim 51 wherein the transmitter component comprises a filter having a programmable frequency band.

57. The adaptive transceiver of claim 51 wherein the transmitter component comprises an amplifier having a programmable gain.

58. The adaptive transceiver of claim 51 wherein the transmitter component comprises a filter having a programmable frequency band, and an amplifier coupled to the filter and having a programmable gain.

59. The adaptive transceiver of claim 58 wherein the receiver component comprises a second amplifier having a programmable gain, and the receiver further comprises a second filter coupled to the second amplifier and having a programmable frequency band, and the demodulator coupled to the second filter and having programmable demodulation.

60. The adaptive transceiver of claim 51 further comprising an local oscillator coupled to the receiver and transmitter.

61. The adaptive transceiver of claim 60 wherein the local oscillator comprises a clock generator which outputs a clock to the receiver and transmitter.

62. The adaptive transceiver of claim 61 wherein the transmitter comprises a mixer to mix the clock with a baseband signal.

63. The adaptive transceiver of claim 62 wherein the transmitter further comprises an amplifier coupled to the mixer, the amplifier being the programmable transmitter component.

64. The adaptive transceiver of claim 62 wherein the transmitter further comprises a filter coupled to the mixer, the filter being the programmable transmitter component.

65. The adaptive transceiver of claim 61 wherein the transmitter component comprises a filter with a programmable frequency band to filter a baseband signal, and wherein the transmitter further comprises a mixer coupled to the filter to mix the clock with the filtered baseband signal, and an amplifier coupled to the mixer and having a programmable gain.

66. The adaptive transceiver of claim 61 wherein the receiver comprises a mixer to mix the clock with a received signal from a wireless source.

67. The adaptive transceiver of claim 66 wherein the receiver further comprises an amplifier coupled to the mixer, the amplifier being the programmable receiver component.

68. The adaptive transceiver of claim 66 wherein the receiver further comprises a filter coupled to the mixer, the filter being the programmable receiver component.

69. The adaptive transceiver of claim 66 wherein the receiver further comprises the demodulator coupled to the mixer, the demodulator being the programmable receiver component.

70. The adaptive transceiver of claim 61 wherein the receiver component comprises an amplifier having a programmable gain to amplify a received signal from an external wireless source, and wherein the receiver further comprises a first mixer coupled to the amplifier to mix the amplified received signal with the clock, a filter coupled to the first mixer and having a programmable frequency band, a second mixer coupled to the filter, and the demodulator coupled to the filter and having programmable demodulation.

71. The adaptive transceiver of claim 70 wherein the transmitter component comprises a second filter with a programmable frequency band to filter a baseband signal, and wherein the transmitter further comprises a third mixer coupled to the second filter to mix the clock with the filtered baseband signal, and a second amplifier coupled to the third mixer and having a programmable gain.

72. The adaptive transceiver of claim 61 wherein the local oscillator comprises a second clock generator which outputs a second clock to the receiver.

73. The adaptive transceiver of claim 72 wherein the second clock generator comprises an oscillator and a divider coupled to the oscillator, the divider having a control input coupled to the controller to program a frequency of the second clock.

74. The adaptive transceiver of claim 61 wherein the clock generator comprises a voltage controlled oscillator to generate the clock, the voltage controlled oscillator a having frequency different than a frequency of the clock.

75. The adaptive transceiver of claim 74 wherein the clock generator further comprises a divider coupled to the voltage controlled oscillator, and a mixer coupled to both the divider and the voltage controlled oscillator, the mixer having an output comprising the clock to the transmitter and receiver.

76. The adaptive transceiver of claim 75 wherein the divider further comprises a control input coupled to the controller to program the frequency of the clock.

77. The adaptive transceiver of claim 75 wherein the clock generator further comprises a phase lock loop comprising the voltage controlled oscillator, the phase lock loop having a control input coupled to the controller to program the frequency of the voltage controlled oscillator.

85. An adaptive transceiver, comprising:

means for receiving a first signal from an external wireless source;

means for transmitting a second signal into space; and

means for programming one of the receiving means and transmitting means to process communication protocol for a local area network or a personal area network,

wherein the receiving means comprises means for demodulating the received first signal, and

wherein the programming means comprises means for programming the demodulating means with a demodulation.

86. The adaptive transceiver of claim 85 wherein the transmitting means comprises means for filtering the second signal, and the programming means programs a frequency band of the filtering means.

87. The adaptive transceiver of claim 85 wherein the transmitting means comprises means for amplifying the second signal, and the programming means programs gain of the amplifying means.

88. The adaptive transceiver of claim 85 wherein the transmitting means comprises means for filtering the second signal, and means for amplifying the filtered second signal, and wherein the programming means programs both a frequency band of the filtering means and gain of the amplifying means.

89. The adaptive transceiver of claim 85 wherein the receiving means comprises means for filtering the received first signal, and the programming means programs a frequency band of the filtering means.

90. The adaptive transceiver of claim 85 wherein the receiving means comprises means for amplifying the received first signal, and the programming means programs gain of the amplifying means.

92. The adaptive transceiver of claim 85 wherein the receiving means comprises means for amplifying the received first signal, means for filtering the amplified first signal, and means for demodulating the filtered first signal, and wherein the programming means programs gain of the amplifying means, and a frequency band of the filtering means.

93. The adaptive transceiver of claim 92 wherein the transmitting means comprises second means for filtering the second signal, and second means for amplifying the filtered second signal, and wherein the programming means programs a frequency band of the second filtering means and gain of the second amplifying means.

94. The adaptive transceiver of claim 85 further comprising means for downconverting the received first signal.

95. The adaptive transceiver of claim 94 wherein the downconverting means comprises means for mixing the received first signal with a clock.

96. The adaptive transceiver of claim 95 further comprising means for generating the clock by mixing a second clock with a third clock.

97. The adaptive transceiver of claim 96 further comprising means for generating the third clock by dividing the second clock by an integer N.

98. The adaptive transceiver of claim 97 wherein the clock comprises a frequency f_{LO} equal to f_{VCO} (N+l) / N, wherein f_{VCO} equals a frequency of the second clock.

99. The adaptive transceiver of claim 98 wherein N = 2.

100. The adaptive transceiver of claim 85 further comprising means for upconverting the second signal before transmission into space.

101. The adaptive transceiver of claim 100 wherein the upconverting means comprises means for mixing the second signal with a clock.

102. The adaptive transceiver of claim 101 further comprising means for generating the clock by mixing a second clock with a third clock.

103. The adaptive transceiver of claim 102 further comprising means for generating the third clock by dividing the second clock by an integer N.

104. The adaptive transceiver of claim 103 wherein the clock comprises a frequency f_{LO} equal to f_{VCO} (N+1) / N, wherein f_{VCO} equals a frequency of the second clock.

105. The adaptive transceiver of claim 104 wherein N = 2.

112. An adaptive transceiver, comprising:

means for programming the transceiver to process communication protocol for a local area network or a personal area network;

means for receiving a first signal from a wireless source;

means for downconverting the received first signal with a clock;

means for upconverting a second signal with the clock;

means for transmitting the upconverted second signal into space;

means for programming a frequency of the clock; and

means for programming a demodulator with a demodulation.

113. The adaptive transceiver of claim 112 further comprising means for amplifying the received first signal, and means for programming gain of the amplifying means.

114. The adaptive transceiver of claim 112 wherein the downconverting means downconverts the received first signal to an intermediate frequency signal.

115. The adaptive transceiver of claim 114 further comprising means for filtering the intermediate frequency signal, and means for programming a frequency band of the filtering means.

116. The adaptive transceiver of claim 114 further comprising means for downconverting the intermediate frequency signal to a baseband signal.

117. The adaptive transceiver of claim 116 wherein the demodulator comprises means for demodulating the baseband signal.

118. The adaptive transceiver of claim 112 wherein the clock frequency programming means comprises means for mixing a second clock with a third clock.

119. The adaptive transceiver of claim 118 wherein the clock frequency programming means further comprises means for generating the third clock by dividing the second clock by an integer N.

120. The adaptive transceiver of claim 119 wherein the clock frequency f_{LO} is equal to $f_{VCO}(N+1) / N$, wherein f_{VCO} equals a frequency of the second clock.

121. The adaptive transceiver of claim 120 wherein $N = 2$.

122. The adaptive transceiver of claim 112 further comprising means for amplifying the upconverted first signal before transmitting the upconverted first signal into space, and means for programming gain of the amplifying means.

123. The adaptive transceiver of claim 112 further comprising means for filtering the first signal, and means for programming a frequency band of the filtering means.

164. The method of claim 1 wherein the communication protocol is associated with one of HomeRF, 802.11 and Bluetooth.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.